

**WEST VIRGINIA  
GEOLOGICAL SURVEY**



Table No. 1—Group 2. West Virginia Spring Waters—General Information (Continued).

Spring No.	Name and Location	Owner	Geological Formation	levation	Date Observed	Estimated Gallons per minute	Tem- perature °F.
<b>LEWIS COUNTY</b>							
41	Alum Spring, Alum Bridge, W. Va.	Chas. Stark, Alum Bridge, W. Va.	Conemaugh	800	1-12-36	0.25	
<b>WOOD COUNTY</b>							
142	Bertrand Mineral Wells, at town of same name	C. T. Jessitt, Parkersburg, W. Va.		700	12-27-35	0.5	53
143	Mineral Wells, at town of same name	Betty White, Bristle, W. H. Wolfe, Adam, Parkersburg, W. Va.	Salt Sand	420 300' deep	12-27-35		54
<b>POCAHONTAS COUNTY</b>							
144	Big Spring, Lowwood, W. Va.	Eugene Gallowood, Slaty Fork, W. Va.	Greensboro Limestone	2940	12-7-35	300	40
145	Clear Spring, Head of Swango Creek	Widmore McShank, Marlinton, W. Va.	Basal Greensboro	3450	5-24-36	2000	52
146	Cockrane Spring, 1.6 mi. W. of Cindia, W. Va.	Porter Shapp, Onota, W. Va.	Basal Greensboro	2500	12-7-35	500	40
147	Garfield Springs Spring, 3 mi. E. of Dunmore, W. Va.	Garfield Shires, Dunmore, W. Va.	Heldersberg-Cockrane Contact	2500	12-7-35	16	54
148	C. D. Buzzard Spring, 1.1 mi. S. E. of Dunmore, along Highway	A. A. Buzzard, Dunmore, W. Va.	Salina	2600	12-7-35	20	48
149	Gibson Spring, 0.5 mi. W. of Frost, W. Va.	Shawnee Gibson, Frost, W. Va.	Heldersberg Limestone	2400	12-6-35	100	50
150	Adam Moore Chabrette, Head of Sharp Run	Adam Moore, Campbelltown, W. Va.	Moccasin Series	2300	12-7-35	0.5	51
151	Sharp Spring, 1.6 mi. W. of Campbelltown, W. Va.	James A. Sharp, Campbelltown, W. Va.	Basal Greensboro	2450	12-7-35	1000	50
<b>WESTER COUNTY</b>							
152	Wm. Smith Well, Derrtown, Webster Springs, W. Va.	John H. Smith, Webster Springs, W. Va.	Alkerton (under one of Brown's) Greensboro Series	1400 715' deep	1-12-36	0.0	44

## POCAHONTAS COUNTY

- 144 Big Spring, Linwood, W. Va. .... Eu
- 145 Cave Spring, Head of Swago Creek. .... W
- 146 Cochrane Spring, 1.5 mi. W. of Onoto, W. Va. .... P
- 147 Garfield Grimes Spring, 2 mi. E. of Dunmore, W. Va. .... G
- 148 C. D. Buzzard Spring, 1.1 mi. S. E. of Dunmore,  
along Highway. .... A
- 149 Gibson Spring, 0.5 mi. W. of Frost, W. Va. .... S
- 150 Adam Moore Chalybeate, Head of Sharp Run. .... A
- 151 Sharp Spring, 1.5 mi. W. of Campbelltown, W. Va. .... J

## WEBSTER COUNTY

- 152 Wm. Smith Well, Dorton, Webster Springs, W. Va. .... J

Owner	Geological Formation	Elevation	Date Observed	Dip minute	Temperature °F.
Chas. Stark, Alum Ridge, W. Va.	Conemaugh	800	1-12-36	0.25	
C. T. Lawitt, Parkersburg, W. Va.		700	12-27-35	0.5	33
Betty White Estate, W. E. Wolfe, Adm., Parkersburg, W. Va.	Salt Sand	600 300' deep	12-27-35		34
Eugene Gatewood, Slaty Fork, W. Va.	Greenbrier Limestone	2340	12-7-35	300	49
Wilcox McClintock, Marlinton, W. Va.	Basal Greenbrier	3450	9-24-35	2000	52
Porter Sharp, Onota, W. Va.	Basal Greenbrier	2500	12-7-35	500	49
W. Garfield Grimes, Dummore, W. Va.	Helderberg-Criskany Contact	2550	12-7-35	75	58
A. A. Bennett, Dummore, W. Va.	Salina	2600	12-7-35	30	49
Stearman Gilson, Froet, W. Va.	Helderberg Limestone	2500	12-6-35	500	50
Adam Moore, Campbelltown, W. Va.	Wacziargy Series	2350	12-7-35	0.5	51
Jesse A. Sharp, Campbelltown, W. Va.	Basal Greenbrier	2450	12-7-35	1000	50
John Hoover, Webster Springs, W. Va.	Alderson Limestone of Greenbrier Greenbrier Series	1460 71.5' deep	1-12-36	0.5	46

Table No. 4. West Virginia Spring Waters—Chemical Analyses—in parts per million (Continued).

Spring No.	Name and Location	Depth from surface	Salinity after evaporation	SiO <sub>2</sub>	(Fe <sub>2</sub> SO <sub>4</sub> )	Fe	Ca	Mg	Na	K	CO <sub>2</sub>	HCl	NO <sub>3</sub>	H <sub>2</sub> S	Total Cl <sub>2</sub> (Deter- mined) (Calcu- lated)	Sample
MASTON COUNTY																
19	Marion's Lake Spring, about 4 mi. W. of Martinsburg, W. Va.	122	213	30	Trace	8.4	4.8	68	2.9	260	96	1.9	None	4	359	BAH
GRANT COUNTY																
20	Johnson Run Spring, Head of Johnson Run	46	416	13	2.5	104	15	78	205	140	1.7	1.5	None	490.7	M & D	
21	Spring Run Spring, Head of Spring Run	22	146	4	5.5	47	6.4	2.0	143	10	1	1.3	None	223.1	JBM	
PUTNAM COUNTY																
22	Johnson Spring, about 0.5 mi. W. of Lone Poplar Spring	60	128	5.4	1.0	39	4.4	0.0	120	7.4	1.1	0.75	None	105.35	JEN	
23	Franklin Spring, 2 mi. S. of Franklin, W. Va.	0.2	93	8.4	(0.05)	28	1.7	1.0	85	6.5	0.79	0.75	None	194.82	JBN	
24	Franklin Spring, Putnam Creek	1.6	117	7.2	(0.7)	28	3.0	0.95	194	5.3	0.65	1	None	182.76	JBN	
POCAHONTAS COUNTY																
25	North Spring, Meyersdale, W. Va.	48	170	13	2.2	34	5.3	2.5	122	6.9	0.9	3	None	185.5	JBM	
26	Beaver Creek Sulphur Spring, 6 mi. W. of Huntersville, W. Va.	8.5	175	11	(2.0)	30	10	19	2.2	100	24	0.3	0.05	2.4	268.35	JBM
27	Curt Spring, 0.5 mi. E. of Huntersville, W. Va.	1.8	71	7	(0.9)	23	1.3	2.3	0.91	75	1.3	0.63	0.75	None	112.12	JBM
28	Dunsmuir Drinking Spring, Dunsmuir, W. Va.	21	182	7.1	5.3	45	9.4	2.8	121	45	0.86	0.1	None	235.76	JBM	
29	Dunsmuir Meadow Spring, Dunsmuir, W. Va.	14	108	0.1	5.4	49	9.5	3.1	114	55	0.95	Trace	None	243.58	JBM	

Table No. 4. West Virginia Spring Waters—Chemical Analyses—in parts per million (Continued).

Total Cl<sub>2</sub> (Deter- mined)



- 30 Fanning Spring, about 0.3 mi. W. of Lone Toplar Spring. ....
- 31 Pitsenbarger Spring, 5 mi. S. of Franklin, W. Va. ....
- 32 Thorn Spring, Reunion Grounds. ....

## POCAHONTAS COUNTY

- 33 Averill Spring, Hepsedam, W. Va. ....
- 34 Beaver Creek Sulphur Spring, 6 mi. W. of Huntersville,  
W. Va. ....
- 35 Curry Spring, 0.3 mi. E. of Huntersville, W. Va. ....
- 36 Dunmore Drinking Spring, Dunmore, W. Va. ....
- 37 Dunmore Meadow Springs, Dunmore, W. Va. ....
- 38 Dunmore Pool Supply Springs, Dunmore, W. Va. ....

Table No. 4. West Virginia Spring Waters—Chemical Analyses—in parts per million (Continued).

Spring No.	Name and Location	Altitude feet	Depth feet	Flow gals. per min.	(Fe) Al <sub>2</sub> O <sub>3</sub>	Ca	Mg	Na	K	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	SiO <sub>2</sub>	Total Dissolved Solids	Analysis
<b>POCAHONTAS COUNTY (Cont.)</b>																
30	McLaughlin Spring, Hedgesville, W. Va.	10	70	1	8.0	18	3.1	2.2	0.03	56	7.2	0.4	1.7	None	37.65	BAH
31	McLaughlin Spring, Hedgesville, W. Va.	13	102	14	0.84	40	6.5	5.4	3.5	135	34	1.5	0.2	None	217.14	BAH
32	Trout McLaughlin Spring, 3 mi. N. E. of Hedgesville, W. Va. (No analysis)	53	686	1*	0.003	156	45	9.4	2.6	120	438	2.3	None	None	29.708	BAH
33	Warwick Sulphur Spring, Edgry, W. Va.	53	370	3.4	2.0	84	18	12	.....	221	107	11	0.2	7.1	467.8	JBM
<b>WESTERN COUNTY</b>																
34	Adkins McLaughlin Well, Water Springs, W. Va.	450	6102	14	0.09	156	46	3006	57	246	51	3452	6.3	20	653.39	BAH
35	Fort Lick Spring, Webster Springs, W. Va.	432	5497	15	0.18	125	38	1918	69	278	4.53167	.....	5	10+	546.63	BAH
36	W. B. Tracy Well, Webster Springs, W. Va.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<b>GREENBRIER COUNTY</b>																
36	Alvord Springs Nos. 1 and 2, Alton, W. Va.	3	38	7.5	15	25	4.5	2.1	2.2	88	5.1	1.4	0.25	None	116.8	BAH
37	Black Sulphur Springs, White Sulphur Springs, W. Va.	155	2318	17	1.1	430	125	22	1.2	305	1416	17	None	12.4	233.8	BAH
38	Blue Sulphur Spring, Blue Sulphur Springs, W. Va.	121	1632	24	0.24	289	49	119	4.0	190	810	68	None	7.2	156.46	BAH
39	Chalkbent Spring, White Sulphur Springs, W. Va.	16	88	4	4.5	7	1.9	2.4	1.8	Acid	43	Trace	None	None	44.41	BAH
40	White Sulphur Spring, White Sulphur Springs, W. Va.	503	3007	17	2.4	362	24	96	.....	130	1301	18	.....	0.4	314.04	BAH
<b>MONROE COUNTY</b>																
41	Locke Spring, Salt Sulphur Springs, W. Va.	107	2672	24	3.1	430	69	173	.....	320	1378	93	None	8.6	234.73	BAH
42	Old Sunset Spring, Sweet Springs, W. Va.	111	813	15	1.1	298	59	96	.....	112	435	27	None	None	158.1	BAH
43	Red Sulphur Spring, Red Sulphur Springs, W. Va.	65	310	15	8	48	21	20	7.3	264	84	4.2	0.3	18.2	418.02	BAH
44	Salt Sulphur Spring, Salt Sulphur Springs, W. Va.	126	3278	25	0.21	626	142	226	11.6	231	1775	120	None	36	2192.11	BAH

Spring  
No.

Name and Location

**POCAHONTAS COUNTY (Cont.)**

- 39 McLaughlin Springs, Hedgesdam, W. Va. ....
- 40 Minnehaha Spring, Minnehaha Springs, W. Va. ....
- 41 Peter McCarthy Spring, 6 mi. N. E. of Huntersville, W.  
(No estimate) .....
- 42 Warwick Sulphur Spring, Edray, W. Va. ....

**WEBSTER COUNTY**

- 43 Addison McLaughlin Well, Webster Springs, W. Va. ....
- 44 Fork Lick Spring, Webster Springs, W. Va. ....
- 45 W. B. Tracy Well, Webster Springs, W. Va. ....



**Spring No. 34. Beaver Creek Sulphur Spring.**

Location: 8 miles west of Huntersville, Pocahontas County.

**Physical Data.**

Elevation: 2470'.

Geological Horizon: Portage Group Shale.

Temperature: Date observed, 6-2-35, 57.2° F.; 9-24-35, 59.0° F.

Rate of flow: Date observed, 6-2-35, 0.5 gallon per minute.

Owner: Lee Simms, Huntersville, W. Va.

**Chemical Analysis.**

Analyst: John B. McCue.

<i>Constituent</i>	<i>Parts per Million.</i>
Solids after evaporation	175.0
Ignition loss	0.5
Silica (SiO <sub>2</sub> )	11.0 (2.0)
Ferric oxide and Alumina (Fe, Al) <sub>2</sub> O <sub>3</sub>	1.5
Iron (Fe)	30.0
Calcium (Ca)	10.0
Magnesium (Mg)	19.0
Sodium (Na)	2.5
Potassium (K)	154.0
Bicarbonate (HCO <sub>3</sub> )	24.0
Sulfate (SO <sub>4</sub> )	6.3
Chloride (Cl)	0.05
Nitrate (NO <sub>3</sub> )	2.4
Hydrogen sulfide gas (H <sub>2</sub> S)	

Total of determined constituents

262.25

Remarks: Calcic—sodic—sulphuretted.

Comments: This is one of the very few sulphur waters in a county noted for the number and variety of its springs. It is located near the new Watoga State Park and is in a very poor condition. If cleaned out and properly curbed, it might prove very popular with vacationists visiting the Park.

**Spring No. 35. Curry Spring.**

Location: By roadside at home of Sherman P. Curry, 0.3 mile east of Huntersville, Pocahontas County.

**Physical Data.**

Elevation: 2200'.

Geological Horizon: Heiderberg Limestone.

Temperature: Date observed, 6-2-35, 49.1° F.; 9-23-35, 50.5° F.

Rate of flow: Date observed: 6-2-35, 30 gallons per minute.

Owner: Sherman P. Curry, Huntersville, W. Va.

**Spring No. 34. Beaver Creek Sulphur Spring.**

Location: 8 miles west of Huntersville, Pocahontas County.

**Physical Data.**

Elevation: 2470'.  
 Geological Horizon: Portage Group Shale.  
 Temperature: Date observed, 6-2-35, 57.2° F.; 9-24-35, 59.0° F.  
 Rate of flow: Date observed, 6-2-35, 0.5 gallon per minute.  
 Owner: Lee Simms, Huntersville, W. Va.

**Chemical Analysis.**

Analyst: John B. McCabe.

Constituent.	Parts per Million.
Solids after evaporation	175.0
Ignition loss	6.5
Silica (SiO <sub>2</sub> )	11.0
Ferric oxide and Alumina (Fe, Al) <sub>2</sub> O <sub>3</sub>	(2.0)
Iron (Fe)	1.3
Calcium (Ca)	30.0
Magnesium (Mg)	10.0
Sodium (Na)	19.0
Potassium (K)	2.9
Bicarbonate (HCO <sub>3</sub> )	156.0
Sulfate (SO <sub>4</sub> )	24.0
Chloride (Cl)	6.3
Nitrate (NO <sub>3</sub> )	0.05
Hydrogen sulfide gas (H <sub>2</sub> S)	2.4
Total of determined constituents.	262.25

**Remarks:** Calcic—sodic—sulphuretted.

**Comments:** This is one of the very few sulphur waters in a county noted for the number and variety of its springs. It is located near the new Weloga State Park and is in a very poor condition. If cleaned out and properly curbed, it might prove very popular with vacationists visiting the Park.

**Spring No. 35. Curry Spring.**

Location: By roadside at home of Sherman P. Curry, 0.3 mile east of Huntersville, Pocahontas County.

**Physical Data.**

Elevation: 2280'.  
 Geological Horizon: Helderberg Limestone.  
 Temperature: Date observed, 6-2-35, 49.1° F.; 9-23-35, 50.6° F.  
 Rate of flow: Date observed, 6-2-35, 30 gallons per minute.  
 Owner: Sherman P. Curry, Huntersville, W. Va.

## SPRINGS OF WEST VIRGINIA

**Spring No. 34. Beaver Creek Sulphur Spring.**

Location: 6 miles west of Huntersville, Pocahontas County.

**Physical Data.**

Elevation: 2470'.

Geological Horizon: Portage Group Shale.

Temperature: Date observed, 6-2-35, 57.2° F.; 9-24-35, 59.0° F.

Rate of flow: Date observed, 6-2-35, 0.5 gallon per minute.

Owner: Lee Simms, Huntersville, W. Va.

**Chemical Analysis.**

Analyst: John B. McCue.

<i>Constituent.</i>	<i>Parts per Million.</i>
Solids after evaporation	175.0
Ignition loss	6.5

# Chemical Analysis.

Analyst: John B. McCue.

Constituent.	Parts per Million.
Solids after evaporation	175.0
Ignition loss	6.5
Silica (SiO <sub>2</sub> )	11.0
Ferric oxide and Alumina (Fe, Al) <sub>2</sub> O <sub>3</sub> )	(2.0)
Iron (Fe)	1.3
Calcium (Ca)	30.0
Magnesium (Mg)	10.0
Sodium (Na)	19.0
Potassium (K)	2.2
Bicarbonate (HCO <sub>3</sub> )	156.0
Sulfate (SO <sub>4</sub> )	24.0
Chloride (Cl)	6.3
Nitrate (NO <sub>3</sub> )	0.05
Hydrogen sulfide gas (H <sub>2</sub> S)	2.4

Total of determined constituents 262.25

Remarks: Calcic—sodic—sulphuretted.

Comments: This is one of the very few sulphur waters in a county noted for the number and variety of its springs. It is located near the new Watoga State Park and is in a very poor condition. If cleaned out and properly treated it might be of some use.

Sodium (Na)	10.0
Potassium (K)	19.0
Bicarbonate ( $\text{HCO}_3$ )	2.2
Sulfate ( $\text{SO}_4$ )	156.0
Chloride (Cl)	24.0
Nitrate ( $\text{NO}_3$ )	6.8
Hydrogen sulfide gas ( $\text{H}_2\text{S}$ )	0.05
	2.4

Total of determined constituents

262.25

Remarks: Calcic—sodic—sulphuretted.

Comments: This is one of the very few sulphur waters in a county noted for the number and variety of its springs. It is located near the new Watoga State Park and is in a very poor condition. If cleaned out and properly curbed, it might prove very popular with vacationists visiting the Park.

### Spring No. 35. Curry Spring.

Location: By roadside at home of Sherman P. Curry, 0.3 mile east of Huntersville, Pocahontas County.

#### Physical Data.

Elevation: 2260'.  
 Geological Horizon: Helderberg Limestone.  
 Temperature: Date observed, 6-2-35, 49.1° F.; 9-23-25, 50.5° F.  
 Rate of flow: Date observed: 6-2-35, 30 gallons per minute.

## Spring No. 35. Curry Spring.

Hot Springs, Pocahontas County, West Virginia.

### Physical Data.

1900.

Locality: Hederberg Limestone.

Temperature: Date observed, 6-2-35, 49.1° F.; 9-23-25, 50.5° F.

Rate of flow: Date observed: 3-2-35, 30 gallons per minute.

Owner: Sherman P. Curry, Huntersville, W. Va.



## Chemical Analysis.

Analyst: John B. McCre.

<i>Constituent.</i>	<i>Parts per Million.</i>
Solids after evaporation	71.0
Ignition loss	1.8
Silica ( $\text{SiO}_2$ )	7.0
Ferric oxide and Alumina ( $\text{Fe, Al}_2\text{O}_3$ )	(0.9)
Iron ( $\text{Fe}$ )	0.63
Calcium ( $\text{Ca}$ )	23.0
Magnesium ( $\text{Mg}$ )	1.3
Sodium ( $\text{Na}$ )	2.3
Potassium ( $\text{K}$ )	0.21
Bicarbonate ( $\text{HCO}_3$ )	75.0
Sulfate ( $\text{SO}_4$ )	1.3
Chloride ( $\text{Cl}$ )	0.63
Nitrate ( $\text{NO}_3$ )	0.75
Manganese ( $\text{Mn}$ )	None
Hydrogen sulfide gas ( $\text{H}_2\text{S}$ )	None
Total of determined constituents	112.12

Remarks: Very few solids for a limestone water.

Comments: Curbed with concrete and covered with a wooden roof. A ram, operated by the flow, pumps water for Mr. Curry's use.

(Chemical Analysis)

Analyst: John B. McCue

Sample No. 36

Solids after evaporation  
(unfiltered)

Ignition loss

Silica (SiO<sub>2</sub>)

Ferric oxide and Alumina (Fe, Al)<sub>2</sub>O<sub>3</sub>

Iron (Fe)

Calcium (Ca)

Magnesium (Mg)

Sodium (Na)

Phosphorus (P)

Bicarbonate (HCO<sub>3</sub>)

Sulfate (SO<sub>4</sub>)

Chloride (Cl)

Nitrate (NO<sub>3</sub>)

Manganese (Mn)

Hydrogen sulfide gas (H<sub>2</sub>S)

Total of determined constituents

Remarks: Very few solids for a limestone water

Comments: Turbid with concrete and covered with a white  
rust. A pump, operated by the flow, pumps water for Mr. Carter's use

Spring No. 36, Dunmore Spring Drinking

Location: Dunmore, Pocahontas County

Physical Data

Elevation: 2500'

Geological Horizon: Rossardville-Heldersberg Limestone contact

Temperature: Date observed, 6-2-35, 63.0° F. 9-2-35, 62.5° F

Rate of flow: Date observed, 6-2-35, 50 gallons per minute.

Owner: J. W. Price, M. D., Marlinton W. Va.

(Chemical Analysis)

Analyst: John B. McCue

(unfiltered)

Solids after evaporation

Ignition loss

Silica (SiO<sub>2</sub>)

Ferric oxide and Alumina (Fe, Al)<sub>2</sub>O<sub>3</sub>

Calcium (Ca)

Magnesium (Mg)

Sodium (Na) and Potassium (K)

Bicarbonate (HCO<sub>3</sub>)

Sulfate (SO<sub>4</sub>)

Parts	
per Million	
182.0	
21.0	
7.3	
2.3	
45.0	
8.4	
28	
114.0	
45.0	

Remarks: Very few solids for a limestone water.

Comments: Curbed with concrete and covered with a wooden roof. A pump, operated by the flow, pumps water for Mr. Curry's use.

### Spring No. 36. Dunmore Spring (Drinking).

Location: Dunmore, Pocahontas County.

#### Physical Data.

Elevation: 2500'.

Geological Horizon: Bossardville Helderberg Limestone contact.

Temperature: Date observed, 6-2-35, 63.0° F; 9-2-35, 62.5° F.

Rate of flow: Date observed, 6-2-35, 30 gallons per minute.

Owner: J. W. Price, M. D., Marlinton, W. Va.

#### Chemical Analysis.

Analyst: John B. McCue.

Constituent.	Parts per Million
Solids after evaporation	182.0
Ignition loss	21.0
Silica ( $\text{SiO}_2$ )	7.3
Ferric oxide and Alumina ( $\text{Fe, Al}_2\text{O}_3$ )	2.3
Calcium (Ca)	45.0
Magnesium (Mg)	8.4
Sodium (Na) and Potassium (K)	2.8
Bicarbonate ( $\text{HCO}_3$ )	114.0
Sulfate ( $\text{SO}_4$ )	45.0

Chloride (Cl)	0.86
Nitrate (NO <sub>3</sub> )	0.10
Manganese (Mn)	Trace
Hydrogen sulfide gas (H <sub>2</sub> S)	None

## Total of determined constituents

225.76

Remarks: Calcic—sodic—alkaline

(Comments: This is a fine, potable water for table use. Samples that have stood several months show no deposited sediment. The mineral content varies but little from year to year. See attached analysis

### Spring No. 36. Dunmore Drinking Spring (Reese Pritchard Spring).

Location 0.8 mile southeast of Dunmore, Pocahontas County

## Physical Data.

Geological Horizon: Bossardville Limestone

## Chemical Analysis.

Analyst. B. B. Kaplan, Survey Chemist

Constituent	Parts per Million
Total loss	66.44
Calcium (Ca)	32.72
Magnesium (Mg)	6.02
Carbonate (CO <sub>3</sub> )	49.02
Sulfate (SO <sub>4</sub> )	23.74
Sulphur trioxide (SO <sub>3</sub> )	48.66

## Total of determined constituents

160.16

Remarks: Recalculated to P. p. m. by B. R. Drake from an analysis quoted in "Detailed Report on Pocahontas County", W. Va. Geological Survey, (1929).

### Spring No. 37. Meadow Spring.

Location: At Dunmore, Pocahontas County.

## Physical Data.

Elevation 2500'  
 Geological Horizon: Bossardville Helderberg Limestone contact.  
 Temperature. Date observed, 6-2-85, 66.2° F.  
 Rate of flow. Date observed, 5-2-86, 200 gallons per minute.  
 Owner J. W. Price, M. D., Marlinton, W. Va.

## Chemical Analysis.

Analyst John B. McGuire.

Chloride (Cl).....	0.86
Nitrate (NO <sub>3</sub> ).....	0.10
Manganese (Mn).....	Trace
Hydrogen sulfide gas (H <sub>2</sub> S).....	None

Total of determined constituents

225.76

Remarks: Calcic—sodic—alkaline.

Comments: This is a fine, potable water for table use. Samples that have stood several months show no deposited sediment. The mineral content varies but little from year to year. See attached analysis.

**Spring No. 36. Dunmore Drinking Spring (Reece  
Prichard Spring).**

Location: 0.8 mile southeast of Dunmore, Pocahontas County.

**Physical Data.**

Geological Horizon: Bossardville Limestone.

that have stood several months snow be deposited sediment. The  
 to be a constant varies but little from year to year. See attached  
 analysis

**Spring No. 36. Dunmore Drinking Spring (Reece  
 Prichard Spring).**

Location: 0.8 mile southeast of Dunmore, Pocahontas County.

**Physical Data.**

Geological Horizon: Bossardville Limestone.

**Chemical Analysis.**

Analyst: B. B. Kaplan, Survey Chemist.

<i>Constituent.</i>	<i>Parts per Million.</i>
Ignition loss . . . . .	66.44
Calcium (Ca) . . . . .	32.72
Magnesium (Mg) . . . . .	6.02
Carbonate (CO <sub>3</sub> ) . . . . .	49.02
Sulfate (SO <sub>4</sub> ) . . . . .	28.74
Sulphur trioxide (SO <sub>3</sub> ) . . . . .	48.66

Total of determined constituents 160.16

**Remarks:** Recalculated to p. p. m. by B. B. Drake from an  
 analysis quoted in "Detailed Report on Pocahontas County", W. Va.  
 Geological Survey, (1929).



**Remarks:** Recalculated to p. p. m. by E. R. Drake from an analysis quoted in "Detailed Report on Pocahontas County", W. Va. Geological Survey, (1929).

### **Spring No. 37. Meadow Spring.**

**Location:** At Dunmore, Pocahontas County.

#### **Physical Data.**

**Elevation:** 2500'.

**Geological Horizon:** Bossardville-Helderberg Limestone contact.

**Temperature:** Date observed, 5-2-35, 66.2° F.

**Rate of flow:** Date observed, 5-2-35, 200 gallons per minute.

**Owner:** J. W. Price, M. D., Marlinton, W. Va.

#### **Chemical Analysis.**

**Analyst:** John B. McCue.

# WEST VIRGINIA GEOLOGICAL SURVEY

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Constituent.  
Solids after evaporation  
Ignition loss . . . . .

Per cent  
by weight  
198.0  
14.0

Silica ( $\text{SiO}_2$ ) .  
Ferric oxide and Alumina ( $\text{Fe, Al}_2\text{O}_3$ )  
Calcium (Ca)  
Magnesium (Mg)  
Sodium (Na) and Potassium (K)  
Bicarbonate ( $\text{HCO}_3$ ).  
Sulfate ( $\text{SO}_4$ )  
Chloride (Cl)  
Nitrate ( $\text{NO}_3$ )  
Manganese (Mn)  
Hydrogen sulfide gas ( $\text{H}_2\text{S}$ )

9.4  
2.4  
49.0  
9.5  
3.1  
114.0  
55.0  
0.95  
Trace  
Trace  
None

Total of determined constituents

243.35

Remarks: Calcic--alkaline--sodic.

Comments: Rises in a meadow beyond No. 36. Is not used and is not protected in any manner.

## Spring No. 38. Upper Spring.

Location: At Dunmore, Pocahontas County.

## Spring No. 38. Upper Spring.

Location. At Dunmore, Pocahontas County.

### Physical Data.

Elevation: 2500'.

Geological Horizon: Bossardville-Helderberg Limestone contact.

Temperature: Date observed, 9-23-35, 62.5° F.

Owner: J. W. Price, M. D., Marlinton, W. Va.

Comments: The level of the pool of this spring was raised by a dam in 1933 so that water would flow by gravity to a swimming pool. In the pool of the spring, Mrs. Anna Price Hunter erected a statue from her own design, which represents an Indian giving thanks for the gift of this water. The owners have erected the swimming pool just mentioned, a bath-house, and a tastefully designed refreshment stand near by, making the spot very attractive to vacationists and passers-by. Cress is grown for sale in the water flowing from this spring and periwinkles thrive in it—one of the few places in West Virginia where they may be found. See photograph.

## Spring No. 39. Largest McLaughlin Spring.

Location: Near Hepsedam State Fish Hatchery, Pocahontas County.

**Spring No. 39. Largest McLaughlin Spring.**

Near Hudson State Fish Hatchery. Localities

## Physical Data.

1000] Horizon. (Greenbury Limestone.

1. Date observed, 6-2-35, 50.2 F.; 9-24-35, 72.5 F.

## SPRINGS OF WEST VIRGINIA

Rate of flow: Date observed, 6-2-35. 2000 gallons per minute.  
 Owner: Bank of Marlinton, Marlinton, W. Va.

## Chemical Analysis.

Analyst: Homer A. Hoskins.

<i>Constituent.</i>	<i>Parts per Million.</i>
Solids after evaporation	70.0
Ignition loss . . . . .	19.0
Silica ( $\text{SiO}_2$ )	9.0
Iron ( $\text{Fe}$ )	8.0
Calcium ( $\text{Ca}$ )	18.0
Magnesium ( $\text{Mg}$ )	3.1
Sodium ( $\text{Na}$ )	3.3
Potassium ( $\text{K}$ )	0.93
Bicarbonate ( $\text{HCO}_3$ )	56.0
Sulfate ( $\text{SO}_4$ )	7.2
Chloride ( $\text{Cl}$ ) . . . . .	0.4
Nitrate ( $\text{NO}_3$ )	1.7
Manganese ( $\text{Mn}$ )	None
Hydrogen sulfide gas ( $\text{H}_2\text{S}$ )	None
Total of determined constituents	107.63

Comments: Typical of the large springs of the basal Greenbrier. Flow averages 1500 to 2000 gallons per minute and varies seasonally somewhat, but never goes dry. Unprotected.

Sulfate (SO <sub>4</sub> )	59.0
Chloride (Cl)	7.2
Nitrate (NO <sub>3</sub> )	0.4
Manganese (Mn)	1.7
Hydrogen sulfide gas (H <sub>2</sub> S)	None
	None

Total of determined constituents

107.63

Comments: Typical of the large springs of the basal Greenbrier. Flow averages 1500 to 2000 gallons per minute and varies seasonally somewhat, but never goes dry. Unprotected.

## Spring No. 40. Minnehaha Spring.

Location: At Minnehaha Springs, Pecos County

### Physical Data.

Elevation: 2340'.  
 Geological Horizon: Marcellus-Oriskany contact.  
 Temperature: Date observed, 6-1-35, 70.5° F.; 9-23-35, 72.0° F.  
 Rate of flow: Date observed, 6-1-35, 1000 gallons per minute.  
 Owner: Richter & Johnson, Washington, D. C.

### Chemical Analysis.

Analyst: Homer A. Hoskins.

Constituent.	Parts per Million.
Solids after evaporation	162.0
Ignition loss	13.0
Silica (SiO <sub>2</sub> )	10.0
Iron (Fe)	0.84
Calcium (Ca)	40.0
Magnesium (Mg)	6.5



## Spring No. 40. Minnehaha Spring

Location At Minnehaha Springs, Pocahontas County

### Physical Data.

Elevation: 2340'.

Geological Horizon: Marcellus-Oriskany contact.

Temperature: Date observed, 6-1-35, 70.5° F.; 9-23-35, 72.0° F.

Rate of flow: Date observed, 6-1-35, 1000 gallons per minute.

Owner Richter & Johnson, Washington, D. C.

### Chemical Analysis.

Analyst: Horner A. Hoskins.

<i>Constituent.</i>	<i>Parts per Million.</i>
Solids after evaporation	162.0
Ignition loss . . . . .	13.0
Silica (SiO <sub>2</sub> )	10.0
Iron (Fe)	0.84
Calcium (Ca)	40.0
Magnesium (Mg)	6.5
Sodium (Na)	5.6
Potassium (K)	3.5

# ANALYSIS OF WEST VIRGINIA

Rate of flow Date observed 6-2-15, 2000 gallons per minute  
(lower) Bank of Marlinton, Marlinton, W. Va.  
Chemical Analysis.

Analyst Horner A. Hoskins

Constituents	Parts per million
SiO <sub>2</sub>	70.0
Al <sub>2</sub> O <sub>3</sub>	3.5
FeO	9.5
MgO	8.5
CaO	1.5
Na <sub>2</sub> O	1.5
K <sub>2</sub> O	0.5
SO <sub>4</sub>	1.5
CO <sub>2</sub>	1.5
H <sub>2</sub> O	1.5
Manganese (Mn)	1.5
Hydrogen sulfide gas (H <sub>2</sub> S)	1.5

## Total of determined constituents

107.5%

Comments: Typical of the large springs of the basal Greenbrier  
formation. Observed 100 to 200 gals per minute and varies seasonally  
but in general good for drinking.

## Spring No. 40, Mirehaha Spring

Location At Mirehaha Springs, Pocahontas County

### Physical Data.

Elevation 2340  
Geological Horizon: Marcellus-Oriskany contact  
Temperature: Date observed, 6-1-15, 72° F 9-23-23, 70° F  
Rate of flow: Date observed, 6-1-85, 1000 gallons per minute.  
Owner: Richter & Johnson, Washington, D. C.

### Chemical Analysis.

Analyst: Horner A. Hoskins

Constituents	Parts per million
SiO <sub>2</sub>	16.0
Al <sub>2</sub> O <sub>3</sub>	1.5
FeO	1.5
MgO	1.5
CaO	1.5
Na <sub>2</sub> O	1.5
K <sub>2</sub> O	1.5
SO <sub>4</sub>	1.5
CO <sub>2</sub>	1.5
H <sub>2</sub> O	1.5
Manganese (Mn)	1.5
Hydrogen sulfide gas (H <sub>2</sub> S)	1.5

18.00 1.00 1.00 1.00 1.00 1.00

Percentage of  
Sulfate in  
sample  
Hydrogen  
Hydrogen

Total of above and above

Percentage of above and above

Percentage of above and above  
of which is represented by a number of  
the above is the number of the above  
percentage of the above is the number of  
percentage of the above is the number of  
percentage of the above is the number of

### Spring No. 40 Mineral Springs

Location Mineral Springs, Pocahontas County, W. Va.

Physical Properties

Physical Properties  
Temperature 72.00 F  
Specific Gravity 1.0000  
Ratio of H<sub>2</sub>O to H<sub>2</sub>SO<sub>4</sub> 1.0000  
Density 1.0000

Chemical Analysis

Analyst J. B. Kipton, W. Va. Geological Survey

Constituents  
Ignition loss

Per cent  
10.00

Silica (SiO<sub>2</sub>)  
Ferrous oxide and Aluminum (Fe, Al, O)  
Calcium (Ca)  
Magnesium (Mg)  
Sodium (Na)  
Potassium (K)  
Carbonate (CO<sub>2</sub>)  
Sulfate (SO<sub>4</sub>)  
Chloride (Cl)  
Nitrate (NO<sub>3</sub>)  
Free Ammonia (NH<sub>3</sub>)

Per cent  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00

Total of determined constituents

100.00

Remarks: Recalculated to p. p. m. by B. L. Drake from an analysis in "Detailed Report on Pocahontas County, W. Va. Geological Survey, (1929).

# WEST VIRGINIA GEOLOGICAL SURVEY

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Bicarbonate ( $\text{HCO}_3$ )	115.0
Sulfate ( $\text{SO}_4$ )	34.0
Chloride (Cl)	1.5
Nitrate ( $\text{NO}_3$ )	0.2
Manganese (Mn)	Trace
Hydrogen sulfide gas (H.S)	None

Total of determined constituents

217.14

Remarks: Very similar to Dunmore Springs.

Comments: This spring arises over a large area, a large part of which is surrounded by a concrete wall to impound the water, but there is no other protection. There are a small, housed swimming pool and a small, but very comfortable hotel on the premises, making the spot ideal for a restful vacation. Only one previous analysis was found in the literature; it is attached hereto.

## Spring No. 40. Minnehaha Springs.

Location: Minnehaha Springs, Pocahontas County.

# Spring No. 40. Minnehaha Springs.

Location. Minnehaha Springs, Pocahontas County.

## Physical Data.

Elevation: 2330' B.

Geological Horizon: Marcellus Oriskany.

Temperature: 72° F.

Rate of flow: 1040 gallons per minute

Owner W. A. H. Hobbs.

## Chemical Analysis

Analyst B. B. Kaplan, W. Va. Geological Survey.

<i>Constituent</i>	<i>Parts per Million.</i>
Ignition loss	10.05

Silica (SiO <sub>2</sub> )	6.5
Ferric oxide and Alumina (Fe, Al <sub>2</sub> O <sub>3</sub> )	0.11
Calcium (Ca)	39.23
Magnesium (Mg)	6.45
Sodium (Na)	7.73
Potassium (K)	1.62
Carbonate (CO <sub>2</sub> )	49.14
Sulfate (SO <sub>4</sub> )	8.79
Chloride (Cl)	13.37
Nitrate (NO <sub>3</sub> )	Trace
Free Ammonia (NH <sub>3</sub> )	0.03

Total of determined constituents

153.01

**Remarks:** Recalculated to p. p. m. by B. R. Drake from an analysis in "Detailed Report on Pocahontas County", W. Va. Geological Survey, (1929).

**Spring No. 41. Peter McCarthy Spring.**

Locality 6 miles N E of Huntersville off Browns Creek, Pocahontas County.

**Physical Data**

Elevation: 2518

Geological Horizon. Bossard's Limestone.

Temperature Date observed, 9-25-16, 63.8° F

Date of flow Date observed, 9-25-35, 300 gallons per minute.

Owner: Peter McCarthy Heron, Huntersville, W. Va.

**Chemical Analysis.**

ANALYST: Homer A. Hoskins

Constituents	Parts per Million
Solids after evaporation	606.0
Silica (SiO <sub>2</sub> )	17.0
Iron (Fe)	0.005
Calcium (Ca)	165.0
Magnesium (Mg)	45.0
Sodium (Na)	9.8
Potassium (K)	2.6
Bicarbonate (HCO <sub>3</sub> )	120.0
Sulfate (SO <sub>4</sub> )	438.0
Chloride (Cl)	2.2
Nitrate (NO <sub>3</sub> )	None
Manganese (Mn)	None
Hydrogen sulfide gas (H <sub>2</sub> S)	None

Total of determined constituents

739.705

Remarks: Ca etc.—sodic—alkaline

Comments. There are really two springs and they are warm, so warm that they never freeze until everything else around is frozen, and they only in very cold weather (Mr. Moody Moore, informant). They are entirely unprotected.

**Spring No. 42. Warwick Sulphur Spring.**

Location: E. R. Sharp farm, 1 mile southeast of Onota, Pocahontas County.

**Physical Data.**

Temperature	73.30
Flow	(estimated) 100 gallons per minute
Date observed	9-25-16, 63.8° F, 9-25-35, 300 gallons per minute
Date of flow	9-25-35, 300 gallons per minute
Owner	Marshall W. Wain



**Spring No. 41. Peter McCarthy Spring.**

**Location:** 6 miles N. E. of Huntersville off Browns Creek, Pocahontas County.

**Physical Data.**

**Elevation:** 2513'.

**Geological Horizon:** Bossardville Limestone.

**Temperature:** Date observed, 9-20-35, 63.5° F.

**Rate of flow:** Date observed, 9-25-35, 300 gallons per minute.

**Owner:** Peter McCarthy Heirs, Huntersville, W. Va.

**Chemical Analysis.**

**Analyst:** Homer A. Hoskins.

*Constituent.*

Solids after evaporation

*Parts  
per Million.*  
666.0

Silica (SiO<sub>2</sub>)





## Chemical Analysis.

Analyst J. B. McCue

Constituent solids after evaporation and iron loss	Fe 1 g per 100 c.c.
Silica (SiO <sub>2</sub> )	5.4
Seric oxide and Alumina (Fe, Al, SiO <sub>2</sub> )	2.0
Calcium (Ca)	84.0
Magnesium (Mg)	18.0
Sodium (Na) and Potassium (K)	12.0
Barbomite (HCO <sub>3</sub> )	221.0
Sulfur (S)	10.0
Chloride (Cl)	11.0
Nitrate (NO <sub>3</sub> )	0.0
Manganese (Mn)	None
Hydrogen sulfide gas (H <sub>2</sub> S)	0.2

## Total of determined constituents

40.6

Remarks: Sulphuretted—calcic—sodic

(Comments: Taken as typical of the shale waters, although the flow is small and varies quite a bit. Unprotected. Compare with No. 34. These (34 and 42) were the only sulphur springs visited in this county and are perhaps the only ones.

## Spring No. 43. Addison McLaughlin Well.

Location: Below Court-House at Webster Springs, Webster County.

## Physical Data.

Elevation 1402  
Geological Horizon: Greenbrier Limestone.  
Temperature Date observed, 6-6-35, 55.0° F., 10-2-35, 54.5° F.  
Rate of flow Date observed, 6-6-35, 5 gallons per minute.  
Owner, J. M. Hoover et al., Webster Springs, W. Va.

## Chemical Analysis.

Analyst: Homer A. Hoskins

Constituent in 100 c.c. of sample	Per 1000 per gallon.
Total Solids	4102.0
Total Solids after evaporation	430.0
Calcium (Ca)	14.0
Magnesium (Mg)	0.09
Sodium (Na) and Potassium (K)	156.0
Barbomite (HCO <sub>3</sub> )	16.0
Sulfur (S)	2400.0
Chloride (Cl)	57.0

## Chemical Analysis.

Analyst: John B. McCue.

<i>Constituent.</i>	<i>Parts per Million.</i>
Solids after evaporation . . . . .	370.0
Ignition loss. . . . .	52.0
<hr/>	
Silica ( $\text{SiO}_2$ ) . . . . .	5.4
Ferric oxide and Alumina ( $\text{Fe, Al}_2\text{O}_3$ ) . . . . .	2.0
Calcium (Ca) . . . . .	84.0
Magnesium (Mg) . . . . .	18.0
Sodium (Na) and Potassium (K) . . . . .	12.0
Bicarbonate ( $\text{HCO}_3$ ) . . . . .	221.0
Sulfate ( $\text{SO}_4$ ) . . . . .	107.0
Chloride (Cl) . . . . .	11.0
Nitrate ( $\text{NO}_3$ ) . . . . .	0.2
Manganese (Mn) . . . . .	None
Hydrogen sulfide gas ( $\text{H}_2\text{S}$ ) . . . . .	7.2
<hr/>	
Total of determined constituents . . . . .	467.8

Remarks: Sulphuretted—calcic—sodic.

Comments: Taken as typical of the shale waters, although the

and are perhaps the only ones. Webster Springs visited in this

### Spring No. 43. Addison McLaughlin Well.

Location Below Court-House at Webster Springs, Webster County.

#### Physical Data.

Elevation: 1462'.

Geological Horizon: Greenbrier Limestone.

Temperature: Date observed, 6-6-35, 55.0° F.; 10-2-35, 54.5 F.

Rate of flow: Date observed, 6-6-35, 5 gallons per minute.

Owner: J. M. Hoover et al., Webster Springs, W. Va.

#### Chemical Analysis.

Analyst: Homer A. Hoskins.

Constituent.	Parts per Million.
Solids after evaporation	6102.0
Ignition loss	430.0
	<hr/>
Silica (SiO <sub>2</sub> )	14.0
Iron (Fe)	0.09
Calcium (Ca)	155.0
Magnesium (Mg)	46.0
Sodium (Na)	2006.0
Potassium (K)	57.0



PLATE XXXI. Mineral Spring. This mineral spring is located in Pocahontas County, West Virginia, near a large pool and a small creek. It is known for its real medicinal value in the treatment of rheumatism and stomach disorders. -Photo by H. B. H.



PLATE XXVII. *Hot Sulphur Spring.* This beautiful spot is where Lord Fairfax was when he discovered the spring in 1746. It is one of the most beautiful and healthful in the State. The water is said to be good for the cure of many diseases.

at Danmore, Pocahontas County, in the valley of the Potomac. It was discovered by Lord Fairfax in 1746, and is one of the most beautiful and healthful in the State.





PLATE XXVIII The McLaughlin Spring.—The waters of this spring can not all be seen because they issue from many crevices in the rock and flow under a mat of vegetation to the stream below. However, it is one of the largest springs in the State and illustrative of the many which water the lands of Pocahontas County. This spring is located at Hepstead near Marlinton. A fish hatchery is close by.—Photo by Hoskins.



Plate XXIX.—State Fish Hatchery at Hepsedam.—This fish hatchery, located in Pocahontas County, is supplied by the waters of Averill spring, indicating an important use of spring water in the State. There are several other hatcheries in West Virginia, namely at Petersburg, Ridge and Leetown, all dependent on unfailing springs for their water supply. Without these our streams would soon be fished completely barren of trout and bass.—Photo by courtesy of Major Shawhan.

Pendleton	136	Eagle Rock Spring
Pendleton	137	Dry Run Spring
Randolph	138	Corley No. 9 (Coal Test Well)
Barbour	139	Talbott Heirs No. 2 Test Well
Pleasants	140	Abe Samberson Spring (Well)
Lewis	141	Alum Spring
Wood	142	Borland Mineral Wells
Wood	143	Mineral Wells
Pocahontas	33	Averill Spring
Pocahontas	34	Beaver Creek Sulphur Spring
Pocahontas	35	Curry Spring
Pocahontas	36	Dunmore Drinking Spring
Pocahontas	37	Dunmore Meadow Spring
Pocahontas	38	Dunmore Pool Supply Spring
Pocahontas	39	McLaughlin Spring
Pocahontas	40	Minnehaha Spring
Pocahontas	41	Peter McCarthy Spring
Pocahontas	42	Warwick Sulphur Spring
Pocahontas	144	Linwood Big Spring
Pocahontas	145	Cave Spring
Pocahontas	146	Cochrane Spring

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34. West Virginia Handbook and Manual, 1924, John T. Harris, Jarrett Printing Co., Charleston, W. Va.

**WEST VIRGINIA  
ENCYCLOPEDIA**